MEMORANDUM

DATE: June 18, 1998

TO: Jim Moore, Manager RCRA

FROM: Steve Bynum, Voluntary Site Remediation Unit

SUBJECT: 0370155013 -- Cook County
Northlake/AG Communications
Site Remediation/Technical Report

AG Communications Systems, Inc., environmental consultants are ENSR Consulting and Engineering (ENSR) out of Westmont, Illinois. Chemicals of concern are volatile organic compounds. An estimated 26,508.42 pounds of hydrocarbon (cumulative through February 1998) have been removed by remediation since the system startup in August 1995 (ENSR First Quarter 1998 Monitoring Report, May 1998). ENSR has continuously submitted quarterly sampling and remediation information to the Illinois EPA. ENSR has installed vapor extraction, groundwater extraction, and steam injection at the north end of the 40-acre AG Communications building and power plant. In 1997, the vapor extraction system was decommissioned in the power plant and in part of a 22,400 feet^2 area in the southern portion of the main building, due to levels of volatile organic compounds below 35 IAC 742 (TACO) Tier I numbers (ENSR February 27, 1997). The Illinois EPA concurred with the shut down of another 15,000 feet^2 area in the building, where sampling results repeatedly showed concentrations below Tier I Objectives (February 4, 1998 meeting Agenda). Currently, ENSR is concerned with the "Law of Diminishing Returns" regarding the remediation system and the rest of the areas that are being remediated. ENSR may pursue Tier II or Tier III cleanup objectives (IEPA February 6, 1998).

cc: Bureau of Land File

AG Communications
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AG Communication Systems

Phoenix, Arizona

ENSR

Status Report of Solid Waste Management Units (SWMUs) at Former AG Communications Systems Facility, Northlake, Illinois

ENSR Consulting and Engineering

December 1995

Document Number 0048-006-700

AG Communications
NCAPS High Priority Evaluation

ENSR Consulting
and Engineering
[illegible]
Westmont, IL 60559
(708) 887-1700
FAX (708) 850-5307

December 22, 1995

ENSR Project No: 0048-006-700

Mr. Allen T. Wojtas
Environmental Engineer
U. S. Environmental Protection Agency
Mail Code HRE-8J
77 West Jackson Boulevard
Chicago, Illinois 60604

SUBJECT: Submission of Status Report of Solid Waste Management Units (SWMUs) at Former AG Communication Systems Facility, Northlake, Illinois

Dear Mr. Wojtas:

On behalf of AG Communication Systems, ENSR Consulting and Engineering (ENSR) is pleased to submit the subject report. A copy of this report has been forwarded to Stephen Bynum of the Illinois Environmental Protection Agency (IEPA). Submission of the subject report was an action item resulting from the September 1, 1995, meeting at the former Northlake, Illinois, facility which was attended by representatives of U. S. EPA, IEPA, AG Communication Systems and ENSR.

If you have any questions concerning this report, please do not hesitate to call me at (708) 887-1700.

Sincerely,

James Barbato
General Manager

JB/kw

cc: Stephen Bynum - IEPA
Dan Johnson - AG Communication Systems
Angelo Basile - AT&T

Reference No. 95-12-W512

RELEASED
DATE 02/19/19
RIN #
INITIALS mr

AG Communications
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Attachment 7 (1/2)

94-1072

0737155013
AG Communication
SF/Tech

AG Communication Systems

Northlake, Illinois

ENSR

Project Status Report and Pilot Testing Results for a Remediation System at AG Communication Systems' Northlake, Illinois, Facility

ENSR Consulting and Engineering

August 1994

Document Number 0048-005-750

This report is available @ IEPA and contains detailed information regarding final design of soil and groundwater remediation systems.

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NCAPS High Priority Evaluation
Attachment 6

COPY

ENSR

ENSR Consulting and Engineering

FULL-SCALE REMEDIATION SYSTEM

AG Communication Systems
Northlake, Illinois

ENSR Consulting and Engineering, on behalf of AG Communication Systems (AGCS), has designed and installed a full-scale remediation system at the subject facility to clean up soils and groundwater contaminated with volatile organic compounds (VOCs) using a combination of state-of-the-art remediation technologies. ENSR successfully conducted a pilot testing program to evaluate the effectiveness of the remedial technologies.

The results of the pilot program indicated that the combination of steam injection, soil vapor extraction, and groundwater extraction will be effective in removing VOCs from the soil and groundwater in the areas requiring remediation.

ENSR completed installation of the system from January 1995 through August 1995. The system is comprised of the following componenets:

Steam Injection Wells - A total of 39 shallow and 26 deep steam injection wells were screened across more permeable layers in the unconsolidated glacial tills at depths of 35 to 50 feet. The wells were designed to facilitate steam injection and heating of the unconsolidated till to promote removal of VOCs through vapor extraction.

Shallow Vapor Extraction Wells - A total of 233 vapor extraction wells were installed to depths of 15 to 25 feet in the upper clay till to remove VOC vapors. The vapor extraction is enhanced by heating of the underlying soils via steam injection.

Combination Groundwater/Vapor Extraction Wells - Eighty combination wells were installed as part of the remediation system. The wells are installed to a depth of approximately 50 feet and equipped with pneumatic pumps for enhancing groundwater and vapor recovery below the water table.

Lower Aquifer Extraction Wells and Excavation Dewatering Wells - Two groundwater extraction wells are installed in the lower glacial aquifer to depths of 75 to 80 feet. These wells are equipped with electrical submersible pumps and are designed to provide hydraulic containment of groundwater in the lower aquifer. Three excavation dewatering wells were installed in the excavation backfill to remove water from the backfill.

Well installation activities occurred from January 1995 through July 1995. The treatment system components (2 vapor extraction units, a low-profile tray air stripper, an air dryer, an equilization tank and a sedimentation tank) were assembled starting in July 1995. Shallow vapor extraction commenced on July 31, 1995. ENSR has been conducting groundwater extraction and steam injection startup and testing during August. The startup of each of the system components has occurred in phases and should be completed in September 1995.

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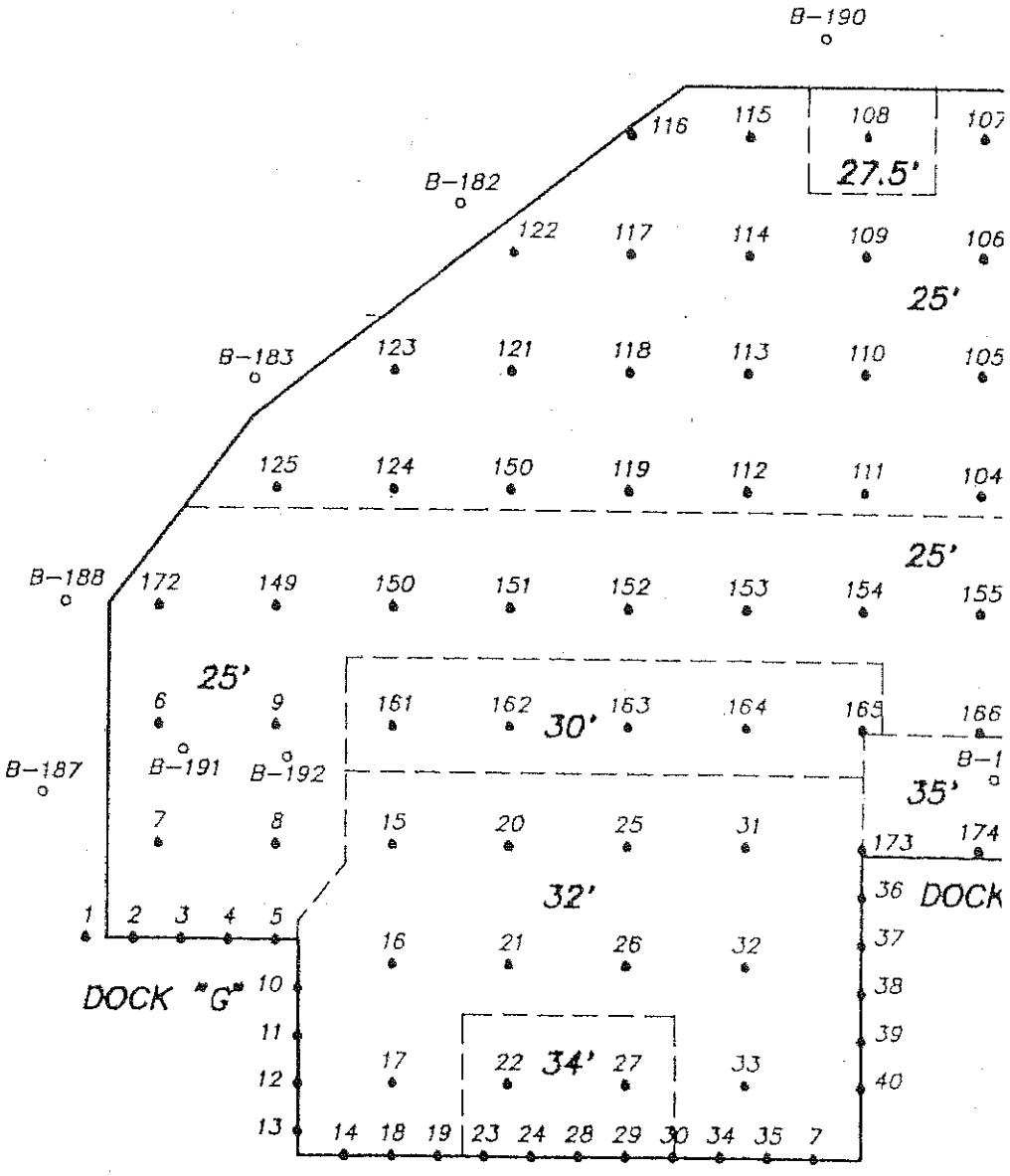
Attachment 5



OHM CORPORATION FINDLAY, OHIO	
DRAWN BY	DUHIGG 6-5-92
CHECKED BY	
APPROVED BY	
DRAWING NUMBER	12175-B2
PLOT SCALE: 1" = 1'	

removal of VOCs from soil and groundwater. VOCs will be removed from beneath the northeast corner of the AGCS facility building, the former gasoline UST area, and adjacent to the former location of the solvent UST tank farm. This remedial action is being conducted by AGCS on a voluntary basis with IEPA supervision under the Illinois Pre-Notice Site Clean-up Program. The remediation system was installed by ENSR during the spring and summer of 1995. Vapor extraction in the shallow soil zone began on July 31, 1995. The remaining components of the remediation system were added incrementally with groundwater extraction and steam injection start-up occurring in September. All systems have been under continuous operation since October 1995. It has been estimated that approximately 3-4 years of operation will be required before shutdown can begin at AOC No. 1.

At the time of the September 22, 1995, site visit, testing and startup of remediation system components was being conducted. Soil and groundwater extraction piping is visible in photographs No. 1, 2, and 3 (see Appendix A).

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Attachment 3 (2|2)

Release Controls: The four stills were located indoors upon a concrete floor. No floor drains are located in the areas of the stills.

History of Documented Releases: There have been no documented releases from this unit.

Current Conditions: Currently, these areas have been decommissioned and are being used as warehouse space (see Photograph No. 13).

AOC No. 1

As mentioned in the PRC PA/VSI conducted in 1992, there have been several releases to soil and groundwater at the AGCS facility. These releases were documented in previous investigations conducted between 1988 and 1993. Releases of volatile organic compounds (VOCs), primarily trichloroethene (TCE) and dichloroethene (DCE) have been documented at the former solvent UST farm which was located outside the north side of the facility near Dock J.

Petroleum related VOCs are present in groundwater near a former gasoline UST location, near the boiler house. These two source areas comprise AOC No. 1. In 1989 VOCs were also detected at SWMU No. 3, former outdoor waste storage area. SWMU No. 3, however, was remediated during RCRA closure of the unit conducted in 1989 and IEPA has approved closure of the unit.

In 1992 OHM excavated and disposed of 63,000 tons of impacted soil and 100,000 gallons of groundwater to address AOC No. 1. Soil was excavated to a depth of 25 to 35 feet in the FUST area near Dock J. This remediation project was conducted on a voluntary basis by AGCS with oversight review by IEPA.

Following the 1992 remedial action, AGCS conducted groundwater monitoring which indicated that groundwater and soil remained which was impacted by residual VOCs. On behalf of AGCS, ENSR has installed a remediation system to address residual VOC contamination at AOC No. 1. The system combines steam injection with soil vapor and groundwater extraction for enhanced physical

The AGCS facility is bordered on the north by an apartment complex, a food distribution warehouse, and a Northlake Public Works maintenance building; on the west by the Chicago and North Western "Proviso" Railroad switching yards and light manufacturing complexes; on the south by a residential area, a park, and a school; and on the east by an apartment complex, a park, and a home for the elderly. Northlake has a population of approximately 12,000 people and the nearest school is Benjamin Franklin School located just south of the facility. All operations at the facility are conducted indoors, and building production areas are kept locked except for badge access. The facility is fenced and has 24-hour security. Outdoor remediation areas are also secured by locked cyclone fences.

The nearest surface water, Addison Creek, flows along the eastern edge of the property. Addison Creek is a tributary to the Des Plaines River and is only used for drainage purposes. There are three ground water supply wells located on the facility property; two of these are in use. These wells are 1,700 feet deep and supply water to the facility for drinking and industrial purposes. Drinking water in Northlake is from the City of Chicago water supply system, which receives surface water from Lake Michigan. Although AGCS is connected into the municipal system, the facility does not use municipal water. There are small, less than 1-acre, wetland areas associated with Addison Creek near the facility. These areas are palustrine, open water, permanently flooded and riverine, lower perennial, open water, permanently flooded, and excavated wetlands. There are also two wetlands, greater than 2 acres in size, located approximately 1 mile to the west and northwest of the facility; a palustrine, emergent, semi-permanently flooded area and a lacustrine, limnetic, open water, permanently flooded and excavated area.

RAI recommends that AGCS continue with the cleanup of soil contamination in the On-Site Remediation Area (AOC 1) under guidance from IEPA. RAI also recommends that ground water contamination be remediated. This should include the contamination of VOCs from the Former Outdoor Waste Storage Area (SWMU 3), as well as from the former gasoline UST and the former UST farm. The facility should formally close the Waste Storage Cages (SWMU 4), currently in use by a cleanup contractor, because the unit has managed hazardous wastes for greater than 90 days. RAI recommends no further action at this time for the remaining SWMUs.

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NCAP Eval
Att 1 (4/4)

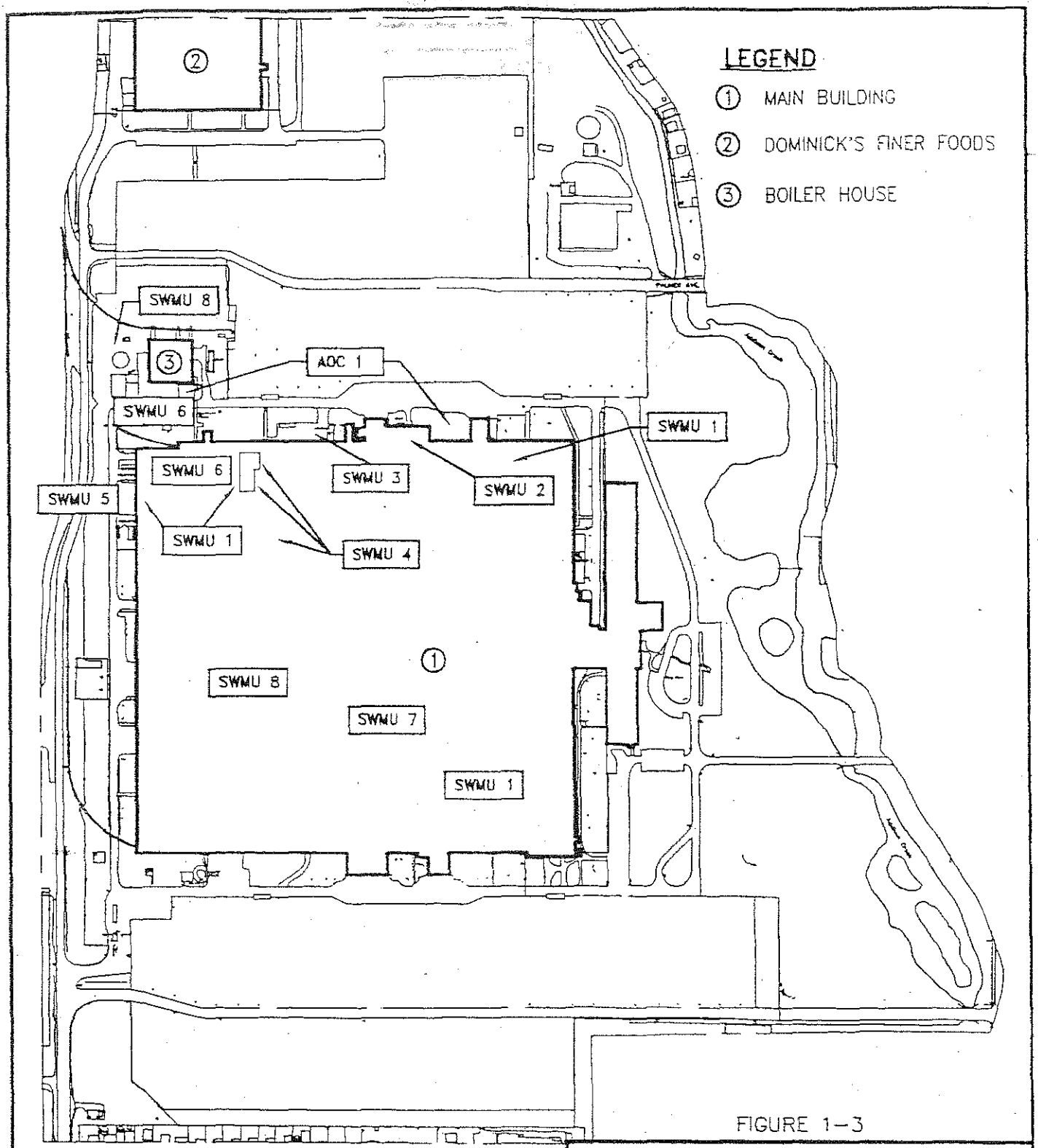

FIGURE 1-3

SOLID WASTE MANAGEMENT UNIT (SWMU)

1. SATELLITE ACCUMULATION AREAS
2. WASTE STORAGE AREA
3. FORMER OUTDOOR WASTE STORAGE AREA
4. WASTE STORAGE CAGES
5. WASTE STORAGE TANK
6. WASTEWATER TREATMENT SYSTEM
7. SOLDER RECLAMATION AREA
8. SOLVENT RECOVERY STILLS

AREA OF CONCERN (AOC)

1. ON-SITE REMEDIATION AREA

NOT TO SCALE

ENSR™
ENSR CONSULTING AND ENGINEERING

FACILITY LAYOUT
AG COMMUNICATION SYSTEMS
NORTHLAKE, ILLINOIS

DRAWN:	EDH	DATE: 10/19/95	PROJECT NUMBER:	REV.
APP'D:	GAF	REVISED: X	0048-006	0

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AG Communications
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facility does not plan to remediate ground water, but has indicated that it will continue ground water monitoring.

The potential for a release to surface water from contaminated on-site soils and ground water in the On-Site Remediation Area (AOC 1) is high because the nearest surface water, Addison Creek, flows along the eastern edge of the property. The facility plans to remove contaminated soil and continue ground water monitoring as part of the cleanup of the On-Site Remediation Area (AOC 1). The potential for releases to surface water from all SWMUs is low because wastes are currently managed indoors.

The potential for a release from contaminated on-site soil in the On-Site Remediation Area (AOC 1) to air is moderate because VOC contamination is present near the Former Outdoor Waste Storage Area (SWMU 3), a former gasoline UST, and a former UST farm. The facility plans to clean up the soil contamination in the On-Site Remediation Area (AOC 1). The potential for a release to air from all SWMUs, except the Solder Reclamation Area (SWMU 7), is low because all volatile wastes are managed indoors in closed containers. No fumes have been identified from the Solvent Recovery Still (SWMU 8). The potential for a release from the Solder Reclamation Area (SWMU 7) to the air is high because solder fumes are vented directly to the outside of the building.

Releases to on-site soil have occurred in the past. In 1986, soil sampling associated with closure of the Former Outdoor Waste Storage Area (SWMU 3) identified metal and VOC contamination. The highest contaminant levels were 193 milligrams per kilogram (mg/kg) for copper, 0.36 mg/kg for cyanide, and 147 mg/kg for TCE. Soil was removed according to an approved closure plan and, according to IEPA, the closure met the requirements of Interim Status Standards. A voluntary environmental evaluation by ENSR Consulting and Engineering (ENSR), conducted in late 1988 and early 1989, identified VOCs in the soil near the Former Outdoor Waste Storage Area (SWMU 3), a former gasoline UST, and a former UST farm. The highest contaminant concentrations are 4 million ppb for TCE in the soil near the former UST farm. The potential for releases to soil from other SWMUs is low because wastes are currently managed indoors. The facility plans to conduct a voluntary cleanup of the contamination in the On-Site Remediation Area (AOC 1) by removing 15,000 cubic yards of soil for off-site disposal.

AG Communications
NCAPS Eval
Att 1 (3/4)

GTE Automatic Electric, Inc. bought the property in 1954. The main production building was constructed in 1956. GTE Network Systems acquired the property in 1982. In the mid-1980s, GTE Communications Systems Corporation (GTE-CSC) assumed control of the facility. On January 1, 1989 AGCS became the owner/operator of the facility. AGCS is a joint venture of AT&T and GTE-CSC, and GTE-CSC retains a 51 percent ownership in AGCS.

The PA/VSI identified the following eight SWMUs and one AOC at the facility:

Solid Waste Management Units

1. Satellite Accumulation Areas
2. Waste Storage Area
3. Former Outdoor Waste Storage Area
4. Waste Storage Cages
5. Waste Storage Tank
6. Wastewater Treatment System
7. Solder Reclamation Area
8. Solvent Recovery Stills

Area of Concern

1. On-Site Remediation Area

Releases to ground water have occurred in the past. Monitoring wells installed on site indicate that contamination by volatile organic compounds (VOC) is present near the RCRA-closed Former Outdoor Waste Storage Area (SWMU 3), a former underground storage tank (UST) for product gasoline, and a former UST farm. All three of these areas make up the On-Site Remediation Area (AOC 1). The VOCs consist primarily of trichloroethene (TCE) and 1,2-dichloroethene (DCE). The highest contaminant concentrations in ground water are 800,000 parts per billion (ppb) for TCE and 1.76 million ppb for DCE. According to the facility representative, the facility never managed DCE and the DCE originated from the breakdown of TCE. The potential for releases to ground water from other SWMUs is low because wastes are currently managed indoors. As part of the cleanup of the On-Site Remediation Area (AOC 1), the facility proposes to excavate soils to depths of 30 feet, remove contaminated soils, and dispose of the soil at licensed off-site facilities. The facility also will conduct ground water monitoring to assess the effectiveness of the remediation. These actions are being conducted voluntarily, as stated in a November 19, 1991, Review and Evaluation Services Agreement with Illinois Environmental Protection Agency (IEPA). At the present time, the

AG Communications NCAPS Eval Att 1 (2/4)

EXECUTIVE SUMMARY

Resource Applications, Inc. (RAI) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the AG Communication Systems (AGCS) facility in Northlake, Cook County, Illinois. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The AGCS facility manufactures office phone systems. Boards and parts are brought into the facility for assembly. The facility generates and manages the following primary waste streams: trichlorotrifluoroethane (Freon) still bottoms (F002), waste 1,1,1-trichloroethane (TCA) (F002), waste resin (D001), and nonhazardous used oils, scrap tin/lead solder, and solder dross. Past operations have included electroplating and electroless plating; hardware fabrication, plating, painting, and punch-pressing; and circuit board plating and fabrication. Past hazardous wastes included waste ammonium hydroxide (D002), waste paint thinner (D001), waste xylene (F003), scrap paint (D001), waste naphtha (D001), waste copper hydroxide (F006), waste copper chloride (D002), waste cyanide (F007), waste methylene chloride (F002), waste trichloroethylene (TCE) (F001), and cleanup waste. Past nonhazardous wastes included cleanup waste, cupric sulfate, carbon, filter aid, grinder sludge, abrasive slurry, industrial wastewater, nickel hydroxide sludge, and zinc hydroxide sludge.

The facility has operated at its current location since 1956. The facility occupies 129 acres in a mixed-use area and employs about 1,000 people. AGCS occupies approximately 2 million square feet under roof, in three buildings, although much of the area has been leased out due to business reduction at the facility. The facility's current regulatory status is that of a large-quantity generator of hazardous waste and a hazardous waste treatment, storage, and disposal (TSD) facility. AGCS submitted a RCRA Part A permit application on November 10, 1980. Its RCRA Part A permit application was withdrawn on January 24, 1989, following approval of closure of the Former Outdoor Waste Storage Area (SWMU 3). During the VSI, subsequent to the RCRA Part A permit application withdrawal, the facility was storing hazardous waste in the Waste Storage Cages (SWMU 4) for greater than 90 days.

AG Communications
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Attachment 1 (V4)

NCAPS High Priority Evacuation for AG Communications
June 1998

FACILITY NAME: AG Communications

SITE LOCATION: 400 N. Wolf Lake Road
North Lake, Illinois

USEPA ID NO.: ILD005070545

IEPA ID NO.: 0314710001

1. Attachment 1 is the Executive Summary from the PA/VSI. It contains general information about the facility and the SWMUS there.

2. Attachment 2 is a site layout map.

3. The facility is currently addressing the contamination at AOC 1 (on-site remediation area) through the IEPA's Voluntary Cleanup Program.

   a. Attachment 3 is taken from the PA/VSI and contains additional information regarding AOC 1.

   b. Attachment 4 shows the boundaries of a soil removal effort conducted in the eastern portion of AOC 1.

   c. In addition to this soil removal effort, the facility is presently carrying out additional soil and groundwater remediation efforts. A brief description of this remediation system is provided in Attachment 5. Detailed plans and specifications for this remediation system is contained in the report identified in Attachment 6 (Project Status Report and Pilot Testing Results for a Remediation System at AG Communication Systems' North Lake, Illinois, Facility) which is in IEPA's files.

   d. The IEPA project manager for this remediation effort is Steve Bynum (telephone number 217/782-6761).

4. The facility has met with Allen Wojtas of USEPA regarding possible RCRA corrective action activities at this facility. On December 22, 1995, they submitted a status report for the SWMUS at this facility. The cover letter and cover sheet for this report is provided as Attachment 7.

5. A June 8, 1998 memo summarizing activities at the facility is provided as Attachment 8.

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Attachments: 1 Exec Summary from PA/VSI (4 pages)
2 Site Layout Map
3 Add'l Info on AOC1 (2 pages)
4 Limits of Soil Removal Effort
5 Summary of Remediation System
6 Title Page from Remediation System Final Design Report
7 Submittal to USEPA (2 pages)
8 June 18, 1998 memo